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|   | First Named Inventor | Chu et al.             |                 |
|   | Art Unit             | 2675                   |                 |
|   | Examiner Name        | Jorgensen              |                 |
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| <b>Remarks</b>   |  |   |

| SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT |                            |
|--|----------------------------|
| Firm or Individual name                    | Jaclyn A. Schade<br>50,569 |
| Signature                                  | <i>Jaclyn A. Schade</i>    |
| Date                                       | 10/8/03                    |

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Serial No. 09/768,829  
Group Art Unit 2673  
Docket No: ARC920000016US1

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPEAL BRIEF- 37 C.F.R. 1.192

U.S. Patent Application 09/768,829 entitled,  
"COMPACT UNIVERSAL KEYBOARD"

**Real Party in Interest:** International Business Machines Corporation

11/20/2003 LDIGGS 00000001 090441 09768829  
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**Related Appeals and Interferences:**

None

**Status of Claims:**

Claims 1-36 are pending.

Claims 1, 2, and 6 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Wang et al., USP 5,661,476.

Claims 15-19 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Kaehler, USP 5,128,672.

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Acevedo, USP 5,818,361.

Claims 4 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Abraham, USP 5,841,374.

Claim 7 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of Moon, USP 5,812,117.

Claims 8-13, 30, and 32 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaehler.

Claim 14 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaehler in view of Wang.

Claims 20-29, 31, and 33-35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Macor, USP 5,841,849, in view of Kaehler.

Claim 36 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaehler in view of Lo, USP 6,072,471.

**Status of Amendments:**

Amendment After Final filed 6/17/2003 was not entered.

**Summary of the Invention:**

The growing convenience of electronic devices has become evident as hand-held designs have incorporated character keys or interfaces (such as graphics or those using a stylus). The

small space available on hand-held devices has made inputting characters an inconvenience, as users are accustomed to traditional layouts, such as those on a QWERTY style keyboard. In order to provide a keyboard input on the limited surface space of electronic devices, the present invention provides a keyboard input aligned in a single row that allows a user to quickly and comfortably input characters. Control keys are provided to allow the user to change the row of input keys from one subset to another. The character and control keys may be placed on the top or sides of the device.

With the system and method of the present invention, the user does not have to refamiliarize themselves with a new keyboard layout. The device allows the user to choose a subset (of a larger complete set) to be represented by the input keys on the device, providing a user-friendly QWERTY style keyboard layout in a row on a limited space rather than in an unfamiliar order that is not conveniently actuated with a user's fingers and thumbs (as with a traditional keyboard).

**Pending Claims** (all citations are made from the original specification, including the figures):

1. A reduced set character entry system for an electronic appliance (*figure 1b*), said reduced set character entry system comprising:

a first set of multiple keys (*figure 1b, elements 106 and 108*), said first set of multiple keys representing a selected subset comprising a single row of characters from a set of QWERTY style keyboard rows (*page 10, lines 17+*), each of said keys associated with a character of said selected subset such that when any of said first set of multiple keys is actuated said associated character is input to said electronic appliance;

a second set of keys (*figure 1b, elements 110a and 112*), at least one of said second set of keys actuated to change said selected row (*page 11, lines 6-11*), and

an electronic appliance display, said display displaying the characters of said selected row (*figure 1c; page 12, lines 1-3*).

2. A reduced set character entry system for an electronic appliance, as per claim 1, wherein said electronic appliance display additionally displays previously input characters (*figure 1c, element 116*).
3. A reduced set character entry system for an electronic appliance, as per claim 2, wherein, each of said first set of multiple keys comprises an electronic character display and input mechanism (*figure 2b*), said electronic character display retaining an image of an associated character of the selected row and said electronic appliance display retaining only said previously input characters (*page 12, lines 13-20*).
4. A reduced set character entry system for an electronic appliance, as per claim 1, wherein said electronic appliance comprises:
  - a top surface;
  - a bottom surface;
  - a plurality of side surfaces connecting said top surface and said bottom surface;
  - said electronic appliance display disposed on said top surface (*figures 1a and 2c*);
  - said first set of at least ten keys disposed on said top surface (*figures 1a and 2c*),
  - and
  - said second set of keys disposed on one or more of said side surfaces (*figures 2a and 2b*).
5. A reduced set character entry system for an electronic appliance, as per claim 1, wherein said electronic appliance comprises:
  - a top surface;
  - a bottom surface;
  - a plurality of side surfaces connecting said top surface and said bottom surface;
  - said display disposed on said top surface (*figure 1a*), and
  - wherein one or more of said first and second set of keys are disposed on one or more of said side surfaces (*figures 2a, 2b, and 2c*).

6. A reduced set character entry system for an electronic appliance, as per claim 1, wherein at least one of said second set of keys is actuated to shift the case of said characters associated with said first set of keys (*page 11, lines 11-12*).
7. A reduced set character entry system for an electronic appliance, as per claim 1, wherein said second set of keys comprises two keys, a first of said two keys actuated to change said currently selected row to a row above said currently selected row and a second of said two keys actuated to change said currently selected row to a row below said currently selected row (*page 11, lines 4-11 and lines 14-19*).
8. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces (*figure 1a*), said electronic appliance comprising:
- a first set of input keys located on said top surface, said set comprising a single row of characters (*figure 2a*), wherein each of said input keys is associated with an individual character of a first subset of a set of input characters, said subset comprising a row of characters from a set of keyboard rows, (*page 11, lines 16-21*) and actuation of any of said input keys causing the character associated with said actuated input key to be input to said electronic appliance (*figure 2a*);
  - at least one selection key located on one of said side surfaces (*figure 2a, elements 210a and 210b*);
  - a display located on said top surface, said display displaying said first subset of input characters (*figure 2a, element 204*), and
  - wherein actuation of said selection key changes said first subset to a second subset so that each of said input keys is associated with an individual character of said second subset and said display is changed to display said second subset (*page 12, lines 1-5*).
9. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, wherein said

display additionally displays previously input characters (*figure 2a*).

10. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 9, wherein said display comprises a plurality of displays, a first display showing said previously input characters and a second segmented display comprising each of said first set of input keys (*figure 2a; page 12, lines 5-7*).
11. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, wherein one or more of said first set of input keys is disposed on one or more of said side surfaces (*figure 2c; page 12, line 21-page 13, lines 1-4*).
12. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, wherein said characters comprise any of: alphabetic, numerical, kanji or kana (*page 16, lines 6-11*).
13. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, said electronic appliance further comprising:
  - at least one control key located on one of said side surfaces (*figures 2a, 2b, and 2c; elements 210a and 210b*), and
  - wherein actuation of said control key causes said individual characters associated with said input keys to shift between lower case and upper case alphabetic characters (*page 12, lines 17-19*).
14. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, wherein said subsets are rows of a QWERTY style keyboard layout (*figures 2a and 2b*).

15. A compact keyboard input device for an electronic appliance, said input device comprising:
- a set of character input keys, said set less in number than an input character set and displayed in a single row, each of said keys comprising an electronic character display and corresponding input mechanism (*figure 2b*);
  - each of said displays displaying an individual character of said input character set associated with said display (*figure 2b, elements 212a and 212b*), actuation of said corresponding input mechanism causing said displayed character to be input to said electronic appliance (*figure 2a*);
  - at least one selection key (*figure 2b, elements 210a and 210b*), and
  - wherein actuation of said selection key causes each of said displays to display a different individual character of said input character set (*page 12, lines 17-20*).
16. A compact keyboard type input device for an electronic appliance, as per claim 15, wherein said electronic appliance has an output display, said output display displaying previously entered characters (*figure 1c*).
17. A compact keyboard type input device for an electronic appliance, as per claim 16, wherein said electronic appliance comprises:
- a top surface;
  - a bottom surface;
  - a plurality of side surfaces connecting said top surface and said bottom surface;
  - said output display disposed on said top surface;
  - wherein one or more of said character keys and selection keys are disposed on one or more of said side surfaces (*figure 2a*).
18. A compact keyboard type input device for an electronic appliance, as per claim 15, said input device further comprising:
- a control key, and
  - wherein said control key switches said displayed characters between upper case



and lower case characters (*page 11, lines 11-12*).

19. A compact keyboard type input device for an electronic appliance, as per claim 15, wherein said input character set is any of: alphabetic, numeric, kanji, or kana (*page 16, lines 6-11*).

20. An electronic appliance having an input/output device, said appliance comprising:  
a display, said display displaying a selected set of input characters (*figures 3a and 3b; page 13, line 20*);

a wrist band connected to said display for securing said display to the wrist of a user (*figure 3b*);

a flexible assembly operatively connected to said display (*figure 3a, element 308*);

said flexible assembly having a set of character keys located thereon, each of said character keys associated with an individual character of said selected set of input characters and at least one control key, wherein said selected set of input characters comprises a single row of characters from a set of keyboard rows (*page 13, line 20-page 14, line 1*), and

wherein actuation of any of said characters keys causes the character associated with said actuated key to be input into said device and actuation of said control key causes said currently selected set of input characters to be changed to a different set of input characters (*page 13, lines 18-19; page 14, lines 7-8*).

21. An electronic appliance having an input/output device, as per claim 20, wherein said flexible assembly is pivotal from a position where said assembly extends substantially along and underneath said wristband to a position substantially perpendicular to said wristband (*figure 3b; page 13, line 18*).

22. An electronic appliance having an input/output device, as per claim 20, wherein said electronic appliance is a wristwatch (*page 13, lines 11-12*).

23. A portable phone including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system (*figures 4, 5a, 5b*), said portable phone comprising:

a display located on said top surface (*figures 4, 5a, 5b*);

an input assembly operatively connected to said portable phone (*page 14, lines 11-12; page 15, lines 14-16*);

said input assembly having a set of character keys located thereon, each of said character keys associated with an individual character of a selected set of input characters, said selected set comprising a single row of characters from a set of keyboard rows, and at least one control key (*page 14, lines 12-13; page 15, lines 9-10*), and

wherein actuation of any of said characters keys causes the character associated with said actuated key to be input into said device (*page 15, line 17*) and actuation of said control key causes said currently selected set of input characters to be changed to a different set of input characters (*page 15, lines 10-14*).

24. A portable phone including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 23, wherein said input assembly is integrated with said portable phone, said input assembly rotatable from a closed position where said input assembly is substantially enclosed within said housing to a position where said character keys and said control key are exposed for actuation (*figure 4; page 14, lines 15-19*).

25. A portable phone including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 24, wherein said input assembly's axis of rotation is perpendicular to a plane containing said side surfaces (*figure 4; page 14, lines 20+*).

26. A portable phone including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 23, wherein said input assembly is externally attachable to said portable phone

*(page 15, lines 1-4).*

27. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, said electronic appliance comprising:

an input assembly integrally connected to said electronic appliance (*figures 3b and 4*);

said input assembly having a set of character keys located thereon (*figure 3b, element 306*), each of said character keys associated with an individual character of a selected set of input characters, said selected set comprising a single row of characters from a set of keyboard rows (*page 13, lines 20+*), and at least one control key (*figure 3b, element 312*);

said input assembly positionable in a first position where said input assembly is substantially enclosed within said housing (*page 13, lines 15-16*);

said input assembly positionable in a second position where said character keys and said control key are exposed for actuation (*figures 3a and 3b; page 13, lines 16-18*);

wherein upon positioning said input assembly in said second position, actuation of any of said characters keys causes the character associated with said actuated key to be input into said device and actuation of said control key causes said currently selected set of input characters to be changed to a different set of input characters (*page 13, lines 18-20*).

28. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 27, wherein said assembly is positionable in said second position via rotation of said assembly from said first position about an axis perpendicular to a plane containing said plurality of sides (*page 13, line 18; page 14, lines 15-19*).

29. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 27, said electronic appliance further comprising a display located on said top surface (*figures 3a, 3b, and 4*).

30. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, said electronic appliance comprising:

a first set of input keys located on any of said side surfaces (*figure 5a, element 502*), said set of input keys arranged in a single row, each of said input keys associated with an individual character of a first subset of a set of input characters, said set of input characters comprising a row from a set of keyboard rows, and actuation of any of said input keys causing the character associated with said actuated input key to be input to said electronic appliance (*page 15, lines 10-13*);

at least one selection key located on any of said side surfaces (*figure 5a, element 504*), and

wherein actuation of said selection key changes said first subset to a second subset so that each of said input keys is associated with an individual character of said second subset (*page 15, lines 13-14*).

31. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 30, wherein said electronic appliance is a portable phone (*figures 4, 5a, and 5b*).

32. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 30, wherein said input keys and said selection key are located on different ones of said side surfaces (*figures 4, 5a, and 5b; page 14, lines 10+*).

33. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 31, wherein said input keys and said selection key are located on different ones of said side surfaces (*figures 4, 5a, and 5b; page 14, lines 10+*).

34. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 33, wherein said side surface having said input keys located thereon is opposite to said side surface having said selection key located thereon (*figure 5a; page 15, line 10*).

35. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 30, further comprising:

a display located on said top surface (*figure 5a, element 514*), and

wherein information displayed on said display is rotating to be in an orientation appropriate for viewing by a user utilizing said input keys (*figure 5b; page 15, lines 16-17; page 16, lines 2-5*).

36. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 30, wherein an equal number of input keys and selection keys are located upon said first one and second one of said side surfaces, at least one key of said set of input keys acting as a selection key and at least one selection key acting as an input key as a result of switching between dominate hand modes (*page 15, lines 19-21; page 16, line 1*).

. Issues:

1. Were the reasons for non-entry of the amendment "After Final" proper?
2. Was a proper rejection made under 35 U.S.C. § 102(b) using existing USPTO guidelines?
3. Was a proper rejection made under 35 U.S. C. § 103(a) using existing USPTO guidelines?

**Grouping of Claims:**

All claims stand or fall together (claims 1-36).

**Argument:**

1. An "Interview After Final" was granted and conducted in-person on 06/16/03 between the Examiner, his supervisor Steven Saras, and the applicant's representatives: Mr. Randy W. Lacasse and Miss Jaclyn A. Schade. A second telephonic interview was conducted on 08/07/03. During the first interview, independent claims 1, 8, 15, 20, 23, and 27 were particularly discussed to determine and visually demonstrate the distinctions of the keyboard row of the present invention over the prior art. More specifically, that the present invention: displayed a selected subset of the total keyboard in a single row, displayed only the selected subset, and the availability to change from one subset to another. The examiner and his supervisor agreed that the references of Wang, Kaehler, et al. did not provide these claimed features. However, they felt that some additional language would assist in more clearly defining this relationship. Claim language was suggested and a mutual agreement was reached for placing emphasis on the input characters comprising "at most a single row." Applicants were appreciative of the opportunity to interview and for the positive conclusions about claim subject matter and prior art applicability. Following the interview, an amendment "After Final" was submitted with claims 1, 8, 15, 20, 23, 27, and 30, amended (as fully discussed during the course of the interview).

2. The examiner then submitted an "Advisory action" indicating that the amendment presented new issues not earlier presented and would require a new search.

a. Applicants' representatives were surprised by the examiner's change in position from the interview and contacted him to discuss. We acted in accordance with their specific guidance to make the amendments as discussed and feel that no new subject matter was added that required an additional search.

b. In a subsequent interview with the examiner's SPE, these facts were discussed. However, the SPE reaffirmed that the amendment "After Final" would not be entered because it raised new issues which required an additional search. The SPE

then indicated that he himself had subsequently performed such a search and had come up with additional art (Li, EP 0889388 A1) and thus would not enter the amendment (see Continuation Sheet (PTO-303), dated 08/07/2003).

The applicant's position, with respect to the non-entry of the amendment after final is:

- I. Acknowledgment that neither the interview nor subsequent amendment are by matter of right, but rather by examiner discretion. We appreciated the opportunity to interview and submit the amendment "After Final".
- II. However, the examiners agreed to specific claim language to better illustrate the difference in the claims and references of record, and then discussed filing an amendment "After Final" using the agreed upon language.
- III. The examiner cited that the amendment after final language raised new issues, yet this language was simply a refinement of existing claim language, and introduced no new subject matter, as was provided in each of the original figures and specification (figures 1a, 2a, 2b, 3a, 4; page 10, lines 17-18; page 12, lines 7-9; page 13, lines 13-15).
- IV. The examiner and SPE cited not entering the amendment because of the need for a new search (see interview summaries), yet a new search was performed subsequent to the amendment filing, thus removing this impediment for non-entry.
- V. If the SPE found potentially better art as described in the telephonic interview with applicant's representative (Li, EP 0889388 A1), then why was it not applied, officially cited, or a copy provided to the applicant or the Board to further consider?

REJECTIONS UNDER 35 U.S.C. § 102(b)

**Claims 1, 2, and 6 are rejected under 35 U.S.C. § 102(b) as being anticipated by USP 5,661,476 (Wang et al.), hereafter Wang.**

To be properly rejected under 35 U.S.C 102(b), each and every claim element must be shown in a single reference. Wang fails to provide at least the following elements: a device comprising a reduced set character entry system as a single row of input characters that are chosen as a subset of a complete QWERTY style character set, a keyboard in limited space (such as on the side of a handheld device), and a set of keys used to shift the case of the characters

associated with the input character keys. The examiner states that Wang teaches a reduced set character entry system for an electronic appliance comprising a first set of multiple keys representing a selected subset comprising a single row of characters from a set of QWERTY style keyboard rows as in claim 1 of the present invention (Wang, figure 1a, elements 103a - 103c and column 3, lines 21 - 53). The examiner further contends that each of the keys is associated with a character of the selected subset such that when any of the first set of multiple keys is actuated the associated character is input to the electronic appliance. However, a closer reading of Wang shows in figures 1b and 1c, with corresponding text in column 3, lines 28-53, that elements 103a-103c provide for two rows on a display and not a single row of input character keys. Further, Wang teaches the display of a complete set of characters in many rows (Wang, figure 1a, element 101). Wang does not provide, nor suggest, a reduced character entry system in a single row.

The examiner also states that Wang teaches a second set of keys, at least one of the second set of keys actuated to change the selected row (Wang, figures 1a & 1b, elements 102-1-102-6; column 3, lines 21 - 53). The examiner has, however, incorrectly interpreted the claim and has not correctly correlated the claim language with the present invention's specification. First, the keys 102-1-102-6 in Wang, as indicated by the examiner as input actually correspond to a vertical group of keys that cannot input a character alone. Rather, keys 102-1 and 102-6 are the first step in a two-stroke sequence (Wang, column 3, lines 41-53). In the present invention, each key in the row of character keys corresponds to a character in a row of the QWERTY style keyboard (specification, figures 1c and 2a; page 10, lines 16+). Secondly, the "second set of keys" which the applicant refers to are not input keys at all. Rather, as disclosed in the present invention's claim and specification, the second set of keys are provided as control keys, designed to change the character input keys from a selected subset in the row to an additional subset (specification, page 11, lines 4-11). On page 3 of his argument, the examiner has incorrectly interpreted the use of the second set of keys. Wang does not provide nor suggest such type of control keys. The examiner also states that Wang teaches the actuation of one of the second set of keys to shift the case of the characters associated with the first set of keys (Wang, column 3, lines 65 - 67). However, when closely reading this text, Wang states that an additional key must be added. Wang does not disclose shifting the case of a



subset row as claimed in the present invention.

In the applicant's present invention, a first set of keys is provided as character entry keys and a second set of keys is provided as control buttons on an electronic device. In the first set of keys each key position corresponds to one character out of a set of selected characters. Using the second set of keys (control keys), the user selects which set of characters the first keys will represent, as well as other functions such as shifting between upper and lower case characters and alpha-numeric control. For example, character key positions are provided to correspond to the symbols of a row of a traditional QWERTY keyboard. The second set of keys (control keys) may be used to select which row of the traditional QWERTY keyboard is associated with the character key positions, as well as other control functions such as capitalization. The selected characters are shown on a display on the electronic/computing device in order to provide visual feedback.

Wang is a personal information device having "M" number of keys divided into a first group and second group. Inputting each symbol requires a two-stroke sequence in which a first key and then a second key are selected from different keygroups in order to input a symbol. Wang displays a complete set of characters to the user on a device (Wang, figure 1a, element 101). For example, a first row of keys is provided horizontally and a second row is provided vertically. The user chooses from the set by selecting a key from the horizontal row and from the vertical row (not necessarily in that order) in order to obtain the selected input key to be output on the display (Wang, figures 1b and 1c). The present invention displays a selected subset of characters in a single row. The present invention specifically displays a chosen set of characters from QWERTY style keyboard rows. Wang does not explicitly or implicitly disclose or suggest displaying a selected subset. Wang also does not teach or suggest a second set of keys used to change a selected row (subset) or to shift the case of the characters associated with the character keys. Further, Wang teaches away from the present invention's need to provide a keyboard on a limited space by displaying the entire set of characters.

Wang clearly fails to provide many of the claim elements and therefore cannot be a proper rejection under 35 U.S.C. § 102(b).

**Claims 15-19 are rejected under 35 U.S.C. § 102(b) as being anticipated by USP 5,128,672 (Kaehler).**

Again, to be properly rejected under 35 U.S.C 102(b), each and every claim element must be shown in a single reference. Kaehler fails to provide or suggest the following elements: at least a set of character input keys in a single row, a keyboard in limited space such as on the side of a handheld device, and one or more character keys and selection keys disposed on one or more side surfaces, and therefore it is respectfully requested that the rejection was made in error.

The examiner states that Kaehler teaches the elements of the present invention's claim 15 in that Kaehler discloses a compact keyboard input device comprising a set of character input keys with the set less in number than an input character set and displayed in a single row (Kaehler, figure 1, elements 24; figures 3a - 31; column 4, lines 4 - 26; column 4, line 54 - column 5, line 4). However, Kaehler does not illustrate in any figures the use of a single row of input characters. Kaehler also does not suggest or imply a single row of characters throughout the specification.

The examiner has also rejected claim 17 stating that Kaehler teaches that one or more of the character keys and selection keys are disposed on one or more of the side surfaces (Kaehler, figure 1, elements 18, 20, and 22). Kaehler does not, however, illustrate or discuss the placement of input character keys on the side of the device. The present invention claims the use of one or more character keys and selection keys disposed on one or more of the side surfaces of the device (figure 2c). In contrast, in Kaehler all characters are located on the top surface and only control buttons on the side (Kaehler, column 4, lines 14-15). Nowhere does Kaehler teach or suggest placing both character keys and control keys on the sides of an electronic device.

Kaehler provides a keyboard that displays characters in association with keys within a variety of predefined character set layouts, and the user can manually change character set layouts on the keyboard. However, organization of the characters within each character set is based upon the frequency of the character being used or on predictability, such as displaying character layout keys by predicting which characters the user would most likely want to select next (Kaehler, abstract). The keyboard can be implemented as a touch sensitive display or

images. Special function keys can also be used with the keyboard in Kaehler.

In contrast, the present invention provides a compact keyboard input device having a set of character input keys that are selected from a complete character set and that are displayed in a single row. Kaehler fails to provide or suggest a set of character input keys in a single row. Further, at least one selection key and one character key is provided in the present invention to cause each of the electronic character displays of the keys to display a different individual character selected from a set of character keys. Kaehler does not disclose or suggest the use of one or more character keys (input keys) on one or more of the side surfaces of an electronic device. Rather, Kaehler provides the input keys on top of the device. Finally, Kaehler does not provide or suggest the use of a keyboard in a limited space as on the side of a handheld device.

#### REJECTIONS UNDER 35 U.S.C. § 103(a)

To establish a prima facie case of obviousness under U.S.C. § 103, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. Additionally, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure (In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)). Applicants contend, and as will be seen from the arguments below, that the Examiner, based on the office action of 04/08/2003 has failed to establish a prima facie case of obviousness under U.S.C. § 103.

**Claim 3 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of USP 5,818,361 (Acevedo).**

The examiner states on page 5 of the rejection that Wang does not teach that each of the first set of multiple keys comprises an electronic character display and input mechanism. The examiner states that Acevedo teaches that each of a set of multiple keys comprises an electronic character display and input mechanism, the electronic character display retaining an image of an

associated character (Acevedo, figure 1; column 3, lines 1- 4; column 4, lines 1- 7).

Acevedo also provides a plurality of display keys having a liquid crystal display, light emitting diode, or other similar display situated thereon, used with software to assign and depict alphanumeric characters and indicia to the keys. However, a closer reading of Acevedo shows that it is simply is a conventional keyboard for use with a computer and software (Acevedo, figure 1; column 3, lines 61-63). Acevedo does not teach the use of a compact, reduced character keyboard input device having a single row of characters. Further, Acevedo does not invite combination with Wang to produce a portable, compact, reduced character set entry system in an electronic device as claimed by the present invention. Therefore, the examiner has failed to establish a suggestion or motivation for such combination, as well as the teachings provided in claim 3 of the present invention.

**Claims 4 and 5 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of USP 5,841,374 (Abraham).**

As noted by the examiner on page 7 of the rejection, Wang does not specifically teach a top surface, bottom surface, a plurality of side surfaces connecting the top surface and the bottom surfaces, with the electronic appliance display disposed on the top surface, nor does it teach the first set of at least ten keys disposed on the top surface, and the second set of keys disposed on one or more of the side surfaces. The examiner states that Abraham teaches a top surface, a bottom surface, a plurality of side surfaces connecting the top surface and the bottom surface with the electronic appliance display disposed on the top surface (Abraham, figures 1 and 2; element 22). The examiner states that Abraham also teaches a first set of at least ten keys disposed on the top surface and a second set of keys disposed on one or more of the side surfaces (Abraham figures 1 and 2, elements 16, 20, 21; column 3, lines 3 - 22; column 6, lines 16 - 19; and figures 14 and 15). However, claim 4 is dependent on claim 1, and the device as disclosed in Abraham does not provide a reduced set character entry as disclosed in the present invention. Abraham provides a portable word processor having a display and a keyboard with six toggle keys operated by a user's fingertips and the others by the user's thumbs. The characters associated with the keys in Abraham are not a selected row of characters that are a subset of a complete character set of keyboard rows. Abraham provides toggle keys that pivot in any of six directions

to make contact with one of six conductive contacts that are associated with a character key. A seventh character key is associated with the depression of the toggle key. The complete set of input characters are always available in Abraham. Thus, Abraham does not disclose a method of changing the character set. Further, Abraham does not disclose a single row of characters that are a subset of the complete set of QWERTY style keyboard rows.

Also, the present invention allows for not only control keys but also a set(s) of character (input) keys to be on the side surface. In regards to claim 5, the examiner further suggests that Abraham also teaches one or more of the first and second set of keys are disposed on one or more of the side surfaces (Abraham, figures 14 and 15, element 20; column 3, lines 3 - 22; column 6, lines 16 - 19). Although thumb keys are provided on the side of the device in Abraham, they do not provide the same control function(s), for example, changing the selected row of characters, as claimed in the present invention. The thumb keys of Abraham are provided only to perform functions on the input set and do not shift from one subset to another subset (Abraham, column 4, lines 35-43). The thumb keys of Abraham are not input character keys. Neither Wang nor Abraham teach or suggest the use of input keys and control keys on the side surface of an electronic device.

Since Wang utilizes a two-keystroke sequence for character entry and Abraham utilizes a pivoting toggle key that contacts a conductor for inputting a character, it would not have been obvious or a motivation for combining these references. Even if the combination was deemed proper, the combination of Wang and Abraham would not produce the claimed elements of the present invention.

**Claim 7 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Wang in view of USP 5,812,117 (Moon), hereafter Moon.**

The examiner contends that Wang does not specifically teach a second set of keys, having a first key that is actuated to change the currently selected row to a row above the currently selected row, and a second key that is actuated to change the currently selected row to a row below the currently selected row.

However, the examiner describes Moon as teaching two such keys (Moon, figure 2b, element B2; column 3, lines 24 - 49). Claim 7 is dependent on claim 1. Claim 1 of the

present invention selects a single row of input characters as a subset of a QWERTY style keyboard rows. The keys in Moon, however, are used to scroll through the list of available inputs, which are displayed in alphabetical and numerical order (Moon, figures 2a and 2b; column 3, lines 27-36). Moon does not disclose a single row of characters as displayed or chosen as a subset from a QWERTY style keyboard set as claimed in the present invention.

As previously noted, Wang also does not disclose a single row of characters that are a subset of a complete QWERTY set. Rather, Wang teaches the display of the complete set of characters to the user. Therefore, it would not have been obvious to combine the scroll keys of Moon with the system of Wang to allow quicker and more efficient entry of keyed data, as all input characters would be displayed and thus not achieve the desired result of the subject patents. In addition, Moon does not particularly invite such a combination. Since the combination of Moon and Wang is not suggested, nor would it produce the claimed elements, it is not deemed proper.

**Claims 8-13, 30, and 32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaehler.**

In regards to claims 8-13 and 30, the examiner states on page 10 of the rejection that Kaehler does not teach that at least one selection key is located on one of the side surfaces, but invites such a suggestion. However, Kaehler does not disclose a set of input keys comprising a single row of characters containing a subset of characters from a set of keyboard rows that can change a first subset of characters to a second subset of characters as disclosed in the present invention. The examiner further states that a shift key, control key, and option key are located on the side surfaces (figure 1, elements 18, 20, and 22), and that it would have been obvious to place at least one selection key on one of the side surfaces of Kaehler. However, the keys of Kaehler are not used in the same manner as disclosed in the present invention. The selection key in claim 8 of the present invention is used to shift from a first subset to a second subset so that each of the input keys is associated with an individual character of the second subset. Kaehler does not suggest, nor motivate such a combination. Further, Kaehler does not suggest a selection key on the side surface for shifting the case of the subset as in dependent claim 13.

Claim 11 is dependant on claim 8 and adds that one or more of the first set of input keys is

disposed on one or more of the side surfaces. Kaehler does not illustrate or discuss the placement of input character keys on the side of the device. Further, because the present invention requires a single row of characters as input, and Kaehler does not disclose or suggest such implementation, it would not have been obvious to one of ordinary skill to place one or more of the first set of input keys on one of the side surfaces of Kaehler.

Finally, claim 32 of the present invention is dependent on claim 30. Claim 32 requires both input keys and a selection key located on different side surfaces. The examiner noted in the rejection on page 13 that Kaehler does not teach at least one selection key being located on one of the side surfaces and input keys being located on a side surface. It would not have been obvious to place a selection key and input keys on one or more of the side surfaces of Kaehler. Further, it would not have been obvious to place the selection and input keys on opposite side surfaces, nor is it suggested in Kaehler.

**Claim 14 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaehler in view of Wang.**

Claim 14 is dependant on claim 8 and adds that the subsets are rows of a QWERTY style keyboard layout. It is noted by the examiner that Kaehler does not specifically teach that the subsets are rows of a QWERTY style keyboard layout. In fact, Kaehler teaches away from using a QWERTY keyboard row, by instead providing an intelligent matrix of positioned characters, not in QWERTY rows. Kaehler also fails to provide or suggest at least a set of character input keys in a single row, a keyboard in limited space such as on the side of a handheld device, and one or more character keys and selection keys disposed on one or more side surfaces (as in claims 8-13, 30, and 32 of the present invention).

However, the examiner also states that Wang teaches subsets that are rows of a QWERTY style keyboard layout (Wang, figure 1a, elements 103a- 103c). As previously discussed, Wang fails to provide or suggest at least the single row of characters chosen as a subset of a set of QWERTY style keyboard rows, a keyboard in limited space such as on the side of a handheld device, and a set of keys used to shift the case of the characters associated with the character keys (see claims 1, 3, and 6 of the present invention).

As Kaehler would not achieve his objective keyboard using the layout of Wang, it would

not be obvious to combine Kaehler and Wang, and this combination would not produce the claimed invention. The combination of Kaehler and Wang is not obvious and would not produce the claimed invention. Therefore, the examiner has failed to establish a prima facie case of obviousness as required, and the rejection is without merit.

**Claims 20-29, 31, and 33-35 are rejected under 35 U.S.C. § 103(a) as being unpatentable over USP 5,841,849 (Macor), in view of Kaehler.**

Regarding claims 20-29, Macor fails to disclose character keys or a flexible assembly having a set of character keys located thereon, a single row of input characters based on keyboard rows, an input assembly that is externally attachable to a wrist watch or portable phone, a flexible assembly that is pivotal from a parallel (for example, along and underneath the wristband) to a position substantially perpendicular, and display that is rotated to be in an orientation appropriate for viewing by a user.

Macor discusses a personal telecommunication device, such as a portable phone or a wrist band, that allows a user to operate the device as a telephone or electronic messaging device with one finger by using virtual function keys and buttons. In order to choose a selected key, a trackball or joystick is maneuvered to the location of the selected key and depressed (Macor, figure 12, element 300). The input characters of Macor, in both the wrist watch and portable phone, are virtually displayed as a complete set (see figure 6, element 50) rather than as a subset of a complete set as disclosed in the present invention (see figures 6 and 7 of the present invention).

The examiner states that Macor does not teach that the display shows a selected set of input characters and that the flexible assembly having a set of character keys located thereon. In turn, the examiner suggests that it would have been obvious to one of ordinary skill in the art at the time of the invention to combine the reduced character entry system of Kaehler with the wrist mounted input/output device of Macor. However, Kaehler fails to provide or suggest at least a set of character input keys in a single row, a keyboard in limited space such as on the side of a handheld device, and one or more character keys and selection keys disposed on one or more side surfaces. Also, by using a trackball, Macor teaches away from the single row of character keys the present invention. Therefore, the combination of the system of Kaehler with Macor



would not produce the claimed invention.

Macor does not teach that the display shows a selected set of input characters. Further, in particular reference to claims 23, 24, and 27 of the present invention, Macor does not disclose character keys or a flexible assembly having a set of character keys located thereon that is connected to the display. The examiner says that Macor teaches that an input assembly is integrated with the portable phone, and that the input assembly is rotatable from a closed position where the input assembly is substantially enclosed within the housing to a position where the character keys and the control key are exposed for actuation (Macor, column 1, lines 48 - 65; column 2, lines 45 - 53). However, the flexible assembly does not correlate with the claimed elements of the independent claim 23—wherein the input assembly is a selected set of input characters comprising a single row from a set of keyboard rows. Macor has a complete set of input characters on the main screen of the electronic device, not on the flexible assembly (Macor, figures 7 and 9). Further, Macor does not disclose a subset of inputs on the flexible assembly.

A requirement of the present invention is a single row of input characters based on keyboard rows, which is not disclosed in either Macor or Kaehler. Also, Macor does not show an input assembly that is externally attachable to a wristwatch or portable phone as in the present invention (page 15, lines 1-3). Macor does not disclose a flexible assembly that is pivotal from a position along and underneath the wristband to a position substantially perpendicular to the wristband or phone. In regards to claims 33 and 34, neither Macor nor Kaehler teaches that an electronic device, such as a portable phone, has input keys and at least one selection key located on one or more side surfaces. As noted by the examiner on pages 20 and 21 of the rejection, neither Macor nor Kaehler teach that the input keys located thereon is opposite to the side surface having the selection key located thereon. As noted in the above discussion on claims 8 and 30, it would not have been obvious to place a selection key and input keys on one or more of the side surfaces of Kaehler. Further, it would not have been obvious to place the selection and input keys on opposite side surfaces, nor is it suggested in Kaehler. Therefore, neither the Macor or Kaehler references, alone or in combination, deem the use of input keys on the side of an electronic device in a single row obvious, and the rejection is without merit.

The examiner states that Macor teaches that the information displayed on the display is

rotated to be in an orientation appropriate for viewing by a user utilizing the input keys (Macor, figures 1, 4, 6, 8, and 10; column 1, lines 48 - 65; column 2, lines 45 - 53). Macor's display is rotated by a hinge on a base member to reveal the display and keys at the same time; that is, the display must be rotated on the hinge and the device "opened" in order to allow the user to use the device. In the present invention, however, the display is rotated in order to allow the user to use the row of input keys located on the side of the device comfortably. There is no teaching or suggestion of using input keys on the side of the device in Macor.

**Claim 36 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Kaehler in view of USP 6,072,471 (Lo), hereafter Lo.**

As noted by the examiner, claim 36 is dependent on claim 30 and adds that an equal number of input keys and selection keys are located upon the first one and second one of the side surfaces, with at least one key of the set of input keys acting as a selection key and at least one selection key acting as an input key as a result of switching between dominate hand modes. The examiner continues to state that Kaehler does not teach that an equal number of input keys and selection keys are located upon the first one and second one of the side surfaces. Kaehler also does not teach at least one key of the set of input keys acting as a selection key and at least one selection key acting as an input key as a result of switching between dominate hand modes.

Lo provides for an ambidextrous upright computer mouse (Lo, figures 8, 11, and 14). Lo teaches that dominant hand modes can be selectively activated and disabled and the use of control keys on a computer mouse. Lo does not teach the use of a reduced character input system, nor does it teach the use of a single keyboard style row depicting a subset of inputs. The combination of the left-right switching mechanism of Lo with Kaehler would therefore not produce the claimed invention, nor would it be deemed obvious. Thus, the rejection of this claim is without merit.

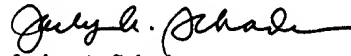
**Summary:**

As has been detailed above, none of the references, cited or applied, provide for the specific claimed details of applicant's presently claimed invention, nor render them obvious. It is believed that this case is in condition for allowance and reconsideration thereof and early

issuance is respectfully requested.

As this Appeal Brief has been timely filed within the set period of response, no petition for extension of time or associated fee is required. However, the Commissioner is hereby authorized to charge any deficiencies in the fees provided, to include an extension of time, to Deposit Account No. 09-0441.

Respectfully submitted by  
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**Appendix:**

1. A reduced set character entry system for an electronic appliance, said reduced set character entry system comprising:

a first set of multiple keys, said first set of multiple keys representing a selected subset comprising a single row of characters from a set of QWERTY style keyboard rows, each of said keys associated with a character of said selected subset such that when any of said first set of multiple keys is actuated said associated character is input to said electronic appliance;

a second set of keys, at least one of said second set of keys actuated to change said selected row, and

an electronic appliance display, said display displaying the characters of said selected row.

2. A reduced set character entry system for an electronic appliance, as per claim 1, wherein said electronic appliance display additionally displays previously input characters.

3. A reduced set character entry system for an electronic appliance, as per claim 2, wherein, each of said first set of multiple keys comprises an electronic character display and input mechanism, said electronic character display retaining an image of an associated character of the selected row and said electronic appliance display retaining only said previously input characters.

4. A reduced set character entry system for an electronic appliance, as per claim 1, wherein said electronic appliance comprises:

a top surface;

a bottom surface;

a plurality of side surfaces connecting said top surface and said bottom surface;

said electronic appliance display disposed on said top surface;

said first set of at least ten keys disposed on said top surface, and

said second set of keys disposed on one or more of said side surfaces.

5. A reduced set character entry system for an electronic appliance, as per claim 1, wherein said electronic appliance comprises:

a top surface;

a bottom surface;

a plurality of side surfaces connecting said top surface and said bottom surface;

said display disposed on said top surface, and

wherein one or more of said first and second set of keys are disposed on one or more of said side surfaces.

6. A reduced set character entry system for an electronic appliance, as per claim 1, wherein at least one of said second set of keys is actuated to shift the case of said characters associated with said first set of keys.

7. A reduced set character entry system for an electronic appliance, as per claim 1, wherein said second set of keys comprises two keys, a first of said two keys actuated to change said currently selected row to a row above said currently selected row and a second of said two keys actuated to change said currently selected row to a row below said currently selected row.

8. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, said electronic appliance comprising:

a first set of input keys located on said top surface, said set comprising a single row of characters, wherein each of said input keys is associated with an individual character of a first subset of a set of input characters, said subset comprising a row of characters from a set of keyboard rows, and actuation of any of said input keys causing the character associated with said actuated input key to be input to said electronic appliance;

at least one selection key located on one of said side surfaces;

a display located on said top surface, said display displaying said first subset of

input characters, and

wherein actuation of said selection key changes said first subset to a second subset so that each of said input keys is associated with an individual character of said second subset and said display is changed to display said second subset.

9. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, wherein said display additionally displays previously input characters.

10. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 9, wherein said display comprises a plurality of displays, a first display showing said previously input characters and a second segmented display comprising each of said first set of input keys.

11. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, wherein one or more of said first set of input keys is disposed on one or more of said side surfaces.

12. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, wherein said characters comprise any of: alphabetic, numerical, kanji or kana.

13. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, said electronic appliance further comprising:

at least one control key located on one of said side surfaces, and

wherein actuation of said control key causes said individual characters associated with said input keys to shift between lower case and upper case alphabetic characters.

14. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces, as per claim 8, wherein said subsets are rows of a QWERTY style keyboard layout.

15. A compact keyboard input device for an electronic appliance, said input device comprising:

a set of character input keys, said set less in number than an input character set and displayed in a single row, each of said keys comprising an electronic character display and corresponding input mechanism;

each of said displays displaying an individual character of said input character set associated with said display, actuation of said corresponding input mechanism causing said displayed character to be input to said electronic appliance;

at least one selection key, and

wherein actuation of said selection key causes each of said displays to display a different individual character of said input character set.

16. A compact keyboard type input device for an electronic appliance, as per claim 15, wherein said electronic appliance has an output display, said output display displaying previously entered characters.

17. A compact keyboard type input device for an electronic appliance, as per claim 16, wherein said electronic appliance comprises:

a top surface;

a bottom surface;

a plurality of side surfaces connecting said top surface and said bottom surface;

said output display disposed on said top surface;

wherein one or more of said character keys and selection keys are disposed on one or more of said side surfaces.

18. A compact keyboard type input device for an electronic appliance, as per claim 15, said input device further comprising:
- a control key, and
  - wherein said control key switches said displayed characters between upper case and lower case characters.
19. A compact keyboard type input device for an electronic appliance, as per claim 15, wherein said input character set is any of: alphabetic, numeric, kanji, or kana.
20. An electronic appliance having an input/output device, said appliance comprising:
- a display, said display displaying a selected set of input characters;
  - a wrist band connected to said display for securing said display to the wrist of a user;
  - a flexible assembly operatively connected to said display;
  - said flexible assembly having a set of character keys located thereon, each of said character keys associated with an individual character of said selected set of input characters and at least one control key, wherein said selected set of input characters comprises a single row of characters from a set of keyboard rows, and
  - wherein actuation of any of said characters keys causes the character associated with said actuated key to be input into said device and actuation of said control key causes said currently selected set of input characters to be changed to a different set of input characters.
21. An electronic appliance having an input/output device, as per claim 20, wherein said flexible assembly is pivotal from a position where said assembly extends substantially along and underneath said wristband to a position substantially perpendicular to said wristband.
22. An electronic appliance having an input/output device, as per claim 20, wherein said electronic appliance is a wristwatch.



23. A portable phone including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, said portable phone comprising:

a display located on said top surface;

an input assembly operatively connected to said portable phone;

said input assembly having a set of character keys located thereon, each of said character keys associated with an individual character of a selected set of input characters, said selected set comprising a single row of characters from a set of keyboard rows, and at least one control key, and

wherein actuation of any of said characters keys causes the character associated with said actuated key to be input into said device and actuation of said control key causes said currently selected set of input characters to be changed to a different set of input characters.

24. A portable phone including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 23, wherein said input assembly is integrated with said portable phone, said input assembly rotatable from a closed position where said input assembly is substantially enclosed within said housing to a position where said character keys and said control key are exposed for actuation.

25. A portable phone including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 24, wherein said input assembly's axis of rotation is perpendicular to a plane containing said side surfaces.

26. A portable phone including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 23, wherein said input assembly is externally attachable to said portable phone.

27. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, said electronic appliance comprising:

an input assembly integrally connected to said electronic appliance;

said input assembly having a set of character keys located thereon, each of said character keys associated with an individual character of a selected set of input characters, said selected set comprising a single row of characters from a set of keyboard rows, and at least one control key;

said input assembly positionable in a first position where said input assembly is substantially enclosed within said housing;

said input assembly positionable in a second position where said character keys and said control key are exposed for actuation;

wherein upon positioning said input assembly in said second position, actuation of any of said character keys causes the character associated with said actuated key to be input into said device and actuation of said control key causes said currently selected set of input characters to be changed to a different set of input characters.

28. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 27, wherein said assembly is positionable in said second position via rotation of said assembly from said first position about an axis perpendicular to a plane containing said plurality of sides.

29. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 27, said electronic appliance further comprising a display located on said top surface.

30. An electronic appliance including a housing having top and bottom surfaces and a

plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, said electronic appliance comprising:

a first set of input keys located on any of said side surfaces, said set of input keys arranged in a single row, each of said input keys associated with an individual character of a first subset of a set of input characters, said set of input characters comprising a row from a set of keyboard rows, and actuation of any of said input keys causing the character associated with said actuated input key to be input to said electronic appliance;

at least one selection key located on any of said side surfaces, and

wherein actuation of said selection key changes said first subset to a second subset so that each of said input keys is associated with an individual character of said second subset.

31. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 30, wherein said electronic appliance is a portable phone.

32. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 30, wherein said input keys and said selection key are located on different ones of said side surfaces.

33. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 31, wherein said input keys and said selection key are located on different ones of said side surfaces.

34. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character

entry system, as per claim 33, wherein said side surface having said input keys located thereon is opposite to said side surface having said selection key located thereon.

35. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 30, further comprising:

a display located on said top surface, and

wherein information displayed on said display is rotating to be in an orientation appropriate for viewing by a user utilizing said input keys.

36. An electronic appliance including a housing having top and bottom surfaces and a plurality of side surfaces connecting said top and bottom surfaces and a reduced set character entry system, as per claim 30, wherein an equal number of input keys and selection keys are located upon said first one and second one of said side surfaces, at least one key of said set of input keys acting as a selection key and at least one selection key acting as an input key as a result of switching between dominate hand modes.